



## PATENT ABSTRACTS OF JAPAN

(11) Publication number: **2001184449 A**

(43) Date of publication of application: 06.07.01

(51) Int. Cl.

**G06K 7/10**

(21) Application number: **11365105**

(22) Date of filing: 22.12.99

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**(54) LENS ADJUSTING DEVICE FOR OPTICAL INFORMATION READER**

direction where the LED (a) of the LED 18 for notification illuminates.

(57) Abstract:

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**PROBLEM TO BE SOLVED:** To provide a lens adjusting device which can easily and speedily makes accurate lens adjustment of a lens unit of an optical information reader.

**SOLUTION:** In the lens adjusting device 1, the output signal of a CCD sensor 13 for adjustment having scanned a pattern code label 21 is converted from analog into digital by a signal processing circuit 15 at respective lens adjustment positions of a lens adjustment stage and then outputted to a control circuit 17. The control circuit 17 calculates a contrast ratio by using the output signal. An LED 18 for notification turns on one of three kinds of LEDs (a), (b), and (c) stepwise according to how much the lens position that the contrast ratio indicates shift from an optimum position. A user side is able to easily make lens adjustment by rotating an internal cylinder of the lens unit 50 in the

